

CLAIMS

1. A method for manufacturing electronic components, in which conductive pattern layers are laminated to each other with insulating layers provided therebetween to form an integrated laminate, comprising the steps of:

alternately laminating the insulating layers and conductive pattern layers having conductive patterns which are formed at intervals therebetween in layer surface directions to form a laminate in which laminate portions of electronic component-forming conductive patterns are collectively formed;

after a force is applied to the laminate in the lamination direction to form the integrated laminate, cutting the laminate along cutting lines provided along boundaries of the laminate portions of the electronic component-forming conductive patterns so as to separate the electronic components from each other;

forming at least one removal dummy pattern in at least one of the conductive pattern layers which are to be laminated to each other before an insulating layer is provided on a surface of said at least one of the conductive pattern layers, the removal dummy pattern having a size to be placed within a cutting-removal region which is a region to be cut and removed by the step of cutting the laminate; and

forming at least one floating dummy pattern in at least one

conductive pattern layer of the laminate portions of the electronic component-forming conductive patterns so as to be disposed in the vicinity of the outside of the cutting-removal region at an interval therefrom before an insulating layer is formed by lamination on a surface of said at least one conductive pattern layer, the floating dummy pattern being not electrically connected to the electronic component-forming conductive patterns.

2. The method for manufacturing electronic components, according to Claim 1, wherein at least one floating dummy pattern and at least one removal dummy pattern are disposed in at least one of the conductive pattern layers so as to be adjacent to each other at an interval therebetween in a layer surface direction of said at least one of the conductive pattern layers, and electronic component-forming conductive patterns of said at least one of the conductive pattern layers, said at least one floating dummy pattern, and said at least one removal dummy pattern are formed from the same material and are also formed in the same step.

3. The method for manufacturing electronic components, according to Claim 1, wherein one conductive pattern layer is disposed which does not have at least one removal dummy pattern at a position which is overlapped with that of at least one

removal dummy pattern of another conductive pattern layer, at least one extension conductor is extendedly formed in said one conductive pattern layer from electronic component-forming conductive patterns thereof so as to intersect the cutting-removal region, and said at least one removal dummy pattern of said another conductive pattern layer and said at least one extension conductor of said one conductive pattern layer are provided at positions which are overlapped with each other.

4. The method for manufacturing electronic components, according to Claim 1, wherein conductive patterns of one conductive pattern layer are disposed, said one conductive pattern layer having no floating dummy pattern at a position which is overlapped with that of at least one floating dummy pattern of another conductive pattern layer, and the floating dummy pattern of said another conductive pattern layer and part of the conductive patterns of said one conductive pattern layer are provided at positions which are overlapped with each other.

5. The method for manufacturing electronic components, according to Claim 3, wherein conductive patterns of one conductive pattern layer are disposed, said one conductive pattern layer having no floating dummy pattern at a position which is overlapped with that of at least one floating dummy

pattern of another conductive pattern layer, and the floating dummy pattern of said another conductive pattern layer and part of the conductive patterns of said one conductive pattern layer are provided at positions which are overlapped with each other.

6. The method for manufacturing electronic components, according to Claim 1, wherein the conductive pattern layers and the insulating layers are formed using a photolithographic technique.

7. The method for manufacturing electronic components, according to one of Claims 1 to 6, wherein the electronic component-forming conductive patterns have a coil pattern shape, and the electronic components are coil components.

8. A mother substrate for forming many electronic components, comprising: conductive pattern layers having conductive patterns which are formed at intervals therebetween in layer surface directions; and insulating layers which are alternately laminated with the conductive pattern layers to form a laminate in which laminate portions of electronic component-forming conductive patterns are collectively formed, the laminate being cut along cutting lines provided along boundaries of the laminate portions of the electronic component-forming conductive patterns so as to

separate the electronic components from each other,

wherein in at least one of the conductive pattern layers which are to be laminated to each other, at least one removal dummy pattern is formed having a size to be placed within a cutting-removal region which is to be cut away along the cutting lines, and

in at least one conductive pattern layer of the laminate portions of the electronic component-forming conductive patterns, at least one floating dummy pattern which is not electrically connected to the electronic component-forming conductive patterns is formed in the vicinity of the outside of the cutting-removal region at an interval therefrom.

9. The mother substrate for forming many electronic components, according to Claim 8, wherein at least one floating dummy pattern and at least one removal dummy pattern are disposed in at least one of the conductive pattern layers so as to be adjacent to each other at an interval therebetween, and electronic component-forming conductive patterns of said at least one of the conductive pattern layers, said at least one floating dummy pattern, and said at least one removal dummy pattern are formed from the same material.

10. The mother substrate for forming many electronic

components, according to Claim 8, wherein in at least one of other conductive pattern layers having no removal dummy pattern at a position which is overlapped with at least one removal dummy pattern of one conductive pattern layer, at least one extension conductor is extendedly formed from electronic component-forming conductive patterns of said at least one of other conductive pattern layers to intersect the cutting-removal region, and said at least one removal dummy pattern of said one conductive pattern layer and said at least one extension conductor of said at least one of other conductive pattern layers are provided at positions which are overlapped with each other.

11. The mother substrate for forming many electronic components, according to Claim 8, wherein in at least one of other conductive pattern layers having no floating dummy pattern at a position which is overlapped with at least one floating dummy pattern of one conductive pattern layer, part of electronic component-forming conductive patterns of said at least one of other conductive pattern layers is disposed at a position which is overlapped with that of said at least one floating dummy pattern of said one conductive pattern layer.

12. The mother substrate for forming many electronic components, according to Claim 10, wherein in at least one of

other conductive pattern layers having no floating dummy pattern at a position which is overlapped with at least one floating dummy pattern of one conductive pattern layer, part of electronic component-forming conductive patterns of said at least one of other conductive pattern layers is disposed at a position which is overlapped with that of said at least one floating dummy pattern of said one conductive pattern layer.

13. The mother substrate for forming many electronic components, according to Claim 8, wherein the conductive pattern layers and the insulating layers are formed using a photolithographic technique.

14. The mother substrate for forming many electronic components, according to one of Claims 8 to 13, wherein the electronic component-forming conductive patterns have a coil pattern shape, and the electronic components are coil components.

15. An electronic component comprising: conductive pattern layers; and insulating layers which are alternately laminated with the conductive pattern layers to form a laminate in which the conductive pattern layers are integrally laminated to each other,

wherein in at least one of the conductive pattern layers

which are laminated to each other, at least one floating dummy pattern which is not electrically connected to a corresponding conductive pattern is disposed in a region between an end surface of said at least one of the conductive pattern layers and the conductive pattern at an interval therefrom so as not to be exposed at the end surface of said at least one of the conductive pattern layers.

16. The electronic component according to Claim 15, wherein the conductive pattern layers have extension conductors which are extendedly formed from the conductive patterns so as to extend to end surfaces of the conductive pattern layers, conductive pattern layers having extension conductors formed at positions different from each other are included in the conductive pattern layers which are laminated to each other, and of the conductive pattern layers having extension conductors formed at positions different from each other, in a region of one conductive pattern layer in which no floating dummy pattern is formed and which is overlapped with a region of another conductive pattern layer in which at least one extension conductor is formed, at least one floating dummy pattern is formed.

17. The electronic component according to Claim 15 or 16, wherein the electronic component-forming conductive patterns have

a coil pattern shape, and the electronic component is a coil component.